

PATENT
Docket No.: HI03027USU (P02017US)

III. REMARKS

A. STATUS SUMMARY

Claims 1 – 8 and 11 – 14 are pending in the present application. Claims 9 and 10 were previously canceled. Claims 1 – 8 and 11 – 14 stand rejected. In this Amendment, claim 14 has been amended and claims 15 – 28 have been added.

B. AMENDMENTS TO SPECIFICATION AND CLAIMS

In Applicant's previous Amendment filed on April 20, 2004, amendments were made to two paragraphs of the specification and claims 11 – 14 were added. Subsequently, in the Office Action mailed July 23, 2004, the specification as amended was objected to and claims 11 – 14 were substantively examined. Therefore, Applicant assumes that the amendments to the specification and the added claims have been formally entered into the record. Accordingly, the amendments made in the present paper are based on this assumption.

In the Office Action mailed July 23, 2004, the specification was objected to and claim 14 was rejected under 35 U.S.C. § 112, first paragraph, essentially on the basis that the addition of the word "convex" constituted new matter. Applicant continues to traverse this objection and rejection. Nonetheless, to expedite prosecution and because the word "convex" is not necessary to define the invention, the specification and claim 14 have been amended to delete the word "convex." The amendments made in this paper are believed to

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be fully supported by the application as originally filed. Accordingly, no new matter is believed to have been added.

C. CLAIM REJECTIONS - 35 U.S.C. § 102

Claims 1 – 8 and 11 – 14 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,930,561 (“the ‘561 Patent”). Applicant respectfully traverses the rejection because, as to each rejected claim, the ‘561 Patent fails to teach each and every element or feature recited in the claim.

Claim 1 recites an “acoustic waveguide, comprising” a “continuous three-dimensional least-energy-surface.” According to the present application, such a least-energy-surface can minimize the presence of mathematical discontinuities in order to optimize area expansion rate. As one advantage that can result from this, the wave front remains essentially perpendicular to, and attached to, the surface of the waveguide defined by the control curves. *See, e.g.*, specification at p. 3. Applicant’s specification also discusses the non-ideal nature of diffraction surfaces and that the invention in practice can eliminate the need for diffraction surfaces.

The ‘561 Patent does not teach any form of a least-energy-surface. In contrast, the ‘561 Patent teaches a waveguide that is defined by a surface terminating at a mouth with a raised diffraction area, edge, or “lip,” and which includes sharp corners. *See, e.g.*, the ‘561 Patent at Abstract (“raised lip secured around the periphery of the horn mouth”); col. 1, lines 57-58 (“raised lip secured around the periphery of the horn mouth”); col. 2, line 63 (“each corner 24 of the exponential section 20”); col. 3, lines 1-3 (“A raised dispersion lip

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26 around the outer periphery of the exponential section 20 provides a sound diffraction corner for the horn mouth"; col. 3, lines 8-10 ("In order to produce a sharp corner for sound dispersion, the inner walls 28 and the top walls 30 of the dispersion lip form a 90° square corner"); and claims 1, 3, 4 & 6 ("diffraction lip").

A raised diffraction area cannot mathematically form a continuous surface between the throat and the mouth because, for example, a raised diffraction area by definition has intentional discontinuities. The '561 Patent fails to teach or address the problem of providing an acoustic waveguide with a least-energy-surface as recited in claim 1.

Claims 2 – 6 depend directly or indirectly from claim 1, and therefore are distinguishable at least for the same reasons.

Independent claim 7 recites "generating a least-energy-surface," and therefore is distinguishable at least for the same reasons as regards claim 1.

Claim 8 depends from claim 7, and therefore is distinguishable at least for the same reasons.

Claim 11 depends indirectly from claim 1, and therefore is distinguishable at least for the same reasons.

Independent claims 12 – 14 each recite "a continuous three-dimensional least-energy-surface," and therefore are distinguishable at least for the same reasons as regards claim 1.

In view of the foregoing, Applicant respectfully submits that claims 1 – 8 and 11 – 14 are patentable under 35 U.S.C. § 102(b) over the '561 Patent, and therefore requests that the rejection to claims 1 – 8 and 11 – 14 be withdrawn.

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D. NEW CLAIMS

New claims 15 – 28 have been added, and are believed to be fully supported by the application as originally filed. Accordingly, no new matter is believed to have been added. New claims 15 – 28 depend directly or indirectly from independent claim 12, 13, or 14, and therefore are patentable over the prior art of record for at least the same reasons as regards claim 12, 13, or 14. Therefore, Applicant respectfully requests that new claims 15 – 28 be entered and allowed.

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IV. CONCLUSION

In light of the above amendments and remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

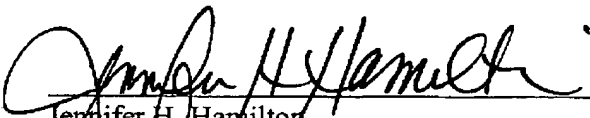
If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

Respectfully submitted,

THE ECLIPSE GROUP

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